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AMSAT NEWS SERVICE
ANS-269

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-269 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 269.01
  From AMSAT HQ KENSINGTON, MD.
DATE September 25, 2016
To All RADIO AMATEURS
BID: $ANS-269.01

Planning Satellite Operations During the 2016 AMSAT Space Symposium

If you are attending the 2016 AMSAT Space Symposium at Sea, Carnival Cruise Line policy allows amateur radio operation as specified in its corporate policy. Please review the FAQs Restricted Items List.
For details see:

https://help.carnival.com/app/answers/detail/a_id/2261

So if you are planning to attend the Symposium and wish to bring radios to operate, please remember that the Carnival Liberty is registered in Panama. US licensed amateur operators wishing to operate at sea must obtain an International Amateur Radio Permit (IARP) from the ARRL. A good rule to apply is a minimum of 30-45 days in advance.
Details are available at the following site:

http://www.arrl.org/iarp

To file the permit you will need to provide the following:
1. Completed and Signed IARP Application Form for US Amateur Radio Operators
2. Photocopy of the applicant's US FCC Amateur license
3. Photocopy of the applicant's legal photo-ID

4. A 1.5x1.5 inch color or black/white Passport size photo of the Applicant
5. Application Fee payable to "ARRL VEC" by check, money order, or credit card

Submit applications and supporting documents to:
ARRL - VEC Department
225 Main Street
Newington, CT 06111 USA

Questions can be directed to:
(860)594-0300 (weekdays 8AM to 5PM ET)
or to
vec(a)arrl.org

Of all the application items, #4 seems to be the most difficult to obtain. AMSAT Vice President, Engineering, Jerry Buxton, N0JY provided the suggestion.

Did you know that you can use the U.S Department of State website to crop your own photo to use with the application?
https://travel.state.gov/content/passports/en/passports/photos/photos.html
Look on the right side of the page under "Already Have a Photo?"
It lets you pick a photo you have on your PC, and save it back to your PC. You can then print it to send with the application.
(Of course, you'll have to figure out how to get it 1.5 x 1.5 inches, I used Word.)

A reminder that you would need a Reciprocal Permit issued by The Republic of Mexico to operate in Mexico and operating from Mexican Islands is strictly controlled.

http://www.arrl.org/reciprocal-permit

Obtaining can be a time consuming and expensive procedure for the one day in port, see

http://www.qsl.net/oh2mcn/xe.htm
http://xe-permit.wd9ewk.net/

See you on-board or on the air!

(ANS thanks Joe Spier, K6WAO, AMSAT Vice President, Educational Relations for the above information)

Plan Ahead for New Years AMSAT CW Activity Day on the Satellites

Thanks to all who participated in AMSAT's Straight Key Night 2016, held in memory of Ben Stevenson, W2BXA. For 25 years, AMSAT has sponsored SKN on OSCAR, and it's been my pleasure to conduct this event.

While Morse as a license qualification has gone the way of the spark gap, I
am pleased to see that amateur CW activity is as popular as ever. Straight keys and "bugs", however, have found a niche primarily with the boat anchor crowd, and AMSAT's insistence on their use in OSCAR SKN has held down participation. Similar considerations have led ARRL to broaden its annual HF event to include all forms of CW, even computer-generated. The idea is to encourage everyone to enjoy CW operation, no matter how they choose to do it. We agree 100%.

So, in with the new: AMSAT CW Activity Day.

As with the old SKN, it will be a fun event, not a contest, and will run for 24 hours on January 1, 2017 (UTC). All forms of CW are welcome. Since it is not a contest, there is no required exchange. A QSO is a QSO. Working the same station on more than one satellite is permitted.

Instead of submitting Best Fist nominations, all participants are asked to post their results, including "Soapbox" comments, to AMSAT-BB. Please include the satellites you used, and the number of CW QSOs you had on each. While it is not necessary to post your full log, you may do so if you wish.

CU on CW!

[ANS thanks Ray Soifer, W2RS, for the above information]

Chinese Space Station Visible

Two weeks ago, on Sept. 15th, China launched a new space station to Earth orbit:
Tiangong-2. The 10-meter long spacecraft is only a fraction the size of the ISS,
but there is room inside for two tiakonauts (Chinese astronauts) and plenty of
science experiments. And in dark skies, it can be seen with the naked eye. On
Sept. 20th, Kevin Fetter of Brockville, Ontario, Canada, video-recorded the
Tiangong-2 passing by the bright star Zeta Ophiuchi:

"At the time the space station was passing the star, its magnitude was near +5,"
estimates Fetter."It got into the 4th magnitude range just before it disappeared
into Earth's shadow. So it is a naked-eye object, albeit barely."

Tiangong-2 is the second of three prototype space stations China plans to launch
as the country builds toward a Mir-class outpost in the next decade.
Tiangong-2's predecessor, Tiangong-1, is still in orbit and expected to burn up
in Earth's atmosphere sometime in 2017.

Next month, China will launch a crew of two to inhabit the new space station for
approximately 30 days. While on board, they will test Tiangong-2's life support
system, and possibly conduct experiments in brain-machine interfacing, atomic
clock navigation, and quantum communications.

Ready to see for yourself? Tiangong-2 flyby predictions are available from
Heavens Above. "Use the Satellite Database and search for object '41765' labeled
'OBJECT A,'" advises Fetter. "That's how to find it."

[ANS thanks Spaceweather.com for the above information]

Measuring Sky Angles With Your Hand

Have you ever worked portable and wondered just how close you were holding your antenna in reference to the necessary altitude and azimuth to be on target with your satellite?

You can use your hands to measure degrees of the sky. There is a method common in astronomy for measuring sky angles. Here's how they describe it on One Minute Astronomer:

"Your hands and fingers are a remarkably accurate (and convenient) measuring tool. When you hold your hand at arm's length, you can estimate angles like this:

- Stretch your thumb and little finger as far from each other as you can. The span from tip to tip is about 25 degrees
- Do the same with your index finger and little finger. The span is 15 degrees
- Clench your fist at arms length, and hold it with the back of your hand facing you. The width is 10 degrees
- Hold your three middle fingers together; they span about 5 degrees
- The width of your little finger at arm's length is 1 degree."

http://oneminuteastronomer.com/860/measuring-sky/

See also
http://makezine.com/2016/09/16/measuring-tip-ruler/

[ANS thanks oneminuteastronomer.com and make zone.com for the above information.]

Falcon 9 Static Fire Anomaly Update

Three weeks ago, SpaceX experienced an anomaly at our Launch Complex 40 (LC-40) at Cape Canaveral Air Force Station. This resulted in the loss of one of our Falcon 9 rockets and its payload.

The Accident Investigation Team (AIT), composed of SpaceX, the FAA, NASA, the U.S. Air Force, and industry experts, are currently scouring through approximately 3,000 channels of engineering data along with video, audio and imagery. The timeline of the event is extremely short – from first signs of an anomaly to loss of data is about 93 milliseconds or less than 1/10th of a second. The majority of debris from the incident has been recovered, photographed, labeled and catalogued, and is now in a hangar for inspection and use during the investigation.

At this stage of the investigation, preliminary review of the data and debris suggests that a large breach in the cryogenic helium system of the second stage liquid oxygen tank took place. All plausible causes are being tracked in an

extensive fault tree and carefully investigated. Through the fault tree and data
review process, we have exonerated any connection with last year's CRS-7 mishap.

The teams have continued inspections of LC-40 and the surrounding facilities.
While substantial areas of the pad systems were affected, the Falcon Support Building adjacent to the pad was unaffected, and per standard procedure was unoccupied at the time of the anomaly. The new liquid oxygen farm – e.g. the tanks and plumbing that hold our super-chilled liquid oxygen – was unaffected
and remains in good working order. The RP-1 (kerosene) fuel farm was also largely unaffected. The pad's control systems are also in relatively good condition.

SpaceX's other facilities, from the Payload Processing Facility at the Cape, to
the pad and hangar at LC-39A, are located several miles from LC-40 and were unaffected as well. Work continues at Pad 39A in preparation for bringing it online in November. The teams have been in contact with Cape Canaveral and Kennedy Space Center partners and neighbors and have found no evidence of debris
leaving the immediate area of LC-40.

At SpaceX headquarters in Hawthorne, CA, manufacturing and production is continuing in a methodical manner, with teams continuing to build engines, tanks, and other systems as they are exonerated from the investigation. SpaceX
will work to resume our manifest as quickly as responsible once the cause of the
anomaly has been identified by the Accident Investigation Team. Pending the results of the investigation, return to flight is anticipated as early as the
November timeframe.

[ANS thanks SpaceX for the above information]

Satellite Shorts From All Over

+ Bruce Paige, KK5DO, reported that Randy, WI7P (ex N7SFI) has been uploading many of his old logs to LoTW. As a result, if you are a LoTW user you might find credit for many of his grid operations. Randy was one of the first ones to work satellites from a grid other than his home grid with more than 100 grids. One time he was maritime mobile, kayaking on a river. He also operated from the 2002 Winter Olympics in Park City Utah.

+ Damon, WA4FHN, and the Starcommgroup satellite operators club congratulate Fernando Ramirez-Ferrer, NP4JV for earning the Got Grids Award #17. Please go to http://www.starcommgroup.org for more about the Starcommgroup's free awards to satellite operators

+ The KO4BB manual repository includes a fairly large list of downloadable test equipment and ham radio manuals. See:
http://www.ko4bb.com/getsimple/index.php?id=manuals

+ Ckayton Coleman, W5PFG, will operate from the Blackstone River Valley National
Historical Park (NPOTA HP49) on Monday, September 26 in grid FN42.
    All times given are in UTC

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    SO-50    20:36 - 20:48
    XW-2F    21:46 - 21:53
    XW-2C    21:53 - 21:59
    SO-50    22:19 - 22:28 (possibly)
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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Lee McLamb, KU4OS
ku4os at amsat dot org